

DETAILED ACTION

Remarks

1. Claims 1, 3-6, 8-16, and 18-23 have been examined. Claims 1, 3-6, 8-15, and 21-23 have been rejected. This Office action is responsive to the amendment filed on 12/22/09, which has been entered in the above identified application.

Specification

2. The amendment filed 12/22/09 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Although Examiner agrees that some computer-readable storage medium is needed in order to store both instructions for execution and data for manipulation and display [*paragraph 36, lines 1-5*], Applicant is introducing new matter by limiting what is encompassed by computer-readable storage medium [*paragraph 36, lines 5-11*].

Applicant is required to cancel the new matter [*paragraph 36, lines 5-11*] in the reply to this Office Action.

3. In view of newly added [*paragraph 36, lines 1-5*] in the specification, the objection to the specification for failing to provide proper antecedent basis for a computer-readable medium in claim 16 is withdrawn.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 6, 8-12, and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claim 6, the system appears to be directed to software *per se* because one of ordinary skill in the art could reasonably interpret the map data collector, outside link locator, MLC generator, and list organizer as being implemented as software routines. Only if at least one of the claimed elements of the system is a physical part of a device can the system as claimed constitute part of a device or a combination of devices to be a machine within the meaning of 101. Although the claim recites, "an interface that connects the NMS to a network device to be displayed on the map of interest," the network device is not an element of the claimed system, but instead is at best, for use with the claimed system. Additionally, merely claiming a network management system does not cure this deficiency because it still appears Applicant is seeking to patent the result of the programmed functionality of the parts.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, 3-5, 13-15, 21, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Gauvin et al (U.S. Patent No. 7,315,985 B1).

Claims 1, 3-5, 21 (Method)

6-1. Regarding claim 1, Gauvin teaches the claim of displaying all direct connections between a subject node and outside nodes not displayed on a map currently presented on a graphical user interface (GUI) of a communication network, wherein each of said outside nodes is associated with at least one of a plurality of outside node groups, by disclosing displaying a network topology view of selected elements within a hierarchical arrangement of icons [*column 16, lines 24-34*]. Elements in the network topology view may be grouped together [*column 18, line 60 to column 19, line 11; column 22, lines 31-65; figure 7*]. The elements may be expanded [*column 18, lines 5-19*] to show lower-level groups [*column 18, lines 50-59; figure 6*].

Gauvin teaches bundling for each of said plurality of outside node groups, said direct connections between said subject node and said outside nodes belonging to said outside node group to create an outside link bundle, by disclosing a parent-child relationship among the elements [*column 16, lines 35-56*].

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Gauvin teaches grouping said outside link bundles into a multiple link connector (MLC) object and associating an interactive connector icon with said MLC object, by disclosing displaying a hierarchy of icons corresponding to the elements displayed in the network topology view *[column 16, lines 24-34]*.

Gauvin teaches displaying said interactive connector icon on said map, wherein said interactive connector icon is attached to said subject node, by disclosing that a user may select elements in the network topology view for expansion *[column 18, lines 5-19]*. A group expansion mechanism associated with each element may be selected *[column 24, lines 13-34]*.

Gauvin teaches displaying, responsive to selecting said interactive connector icon, a pop-up window showing a multiple link connector (MLC) list wherein each item in said MLC list represents an outside link bundle and a corresponding outside node group, the outside link bundle comprising one or more direct connections, by disclosing displaying a group view control mechanism in response to selecting a group expansion mechanism *[column 26, lines 29-41]*. The group view control mechanism provides different levels of group expansion for selection *[column 26, lines 42-48, column 27, lines 7-19; figure 10]*.

6-2. Regarding claim 3, Gauvin teaches the claim with respect to claim 1, wherein said MLC list displays in each row an interactive outside link widget associated with a respective interactive group identification widget, by disclosing displaying different levels

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of group expansion in the group view control mechanism *[column 26, lines 42-48; figure 10]*.

Gauvin teaches each interactive outside link widget is associated with one of said outside link bundles, by disclosing that the group view control mechanism indicates the currently displayed child group element icons that are child icons to a parent level group *[column 26, lines 47-53]*.

Gauvin teaches each interactive group identification widget is associated with a respective one of said outside node groups, by disclosing displaying different levels of group expansion in the group view control mechanism *[column 26, lines 42-48; figure 10]*.

6-3. Regarding claim 4, Gauvin teaches the claim with respect to claim 3, further comprising selecting said interactive outside link widget on said MLC list to display a connections list $L(n)$ identifying all direct connections bundled within said link bundle, by disclosing that the user may use the group view control mechanism to expand a selected element *[column 27, lines 20-44]*.

6-4. Regarding claim 5, Gauvin teaches the claim with respect to claim 3, further comprising selecting said respective interactive group identification widget on said multiple link connector list to display a sub-map of said network showing said one of said outside node groups, by disclosing that the user may use the group view control mechanism to expand a selected element *[column 27, lines 20-44]*.

6-5. Regarding claim 21, Gauvin teaches the claim with respect to claim 1, wherein at least one of said plurality of outside node groups is associated with only one outside node, by disclosing that the user may edit groups and subgroups [*column 22, lines 31-65*]. Thus, the system is fully capable of only having one outside node associated with an outside node group.

Claims 13-15, 23

6-6. Regarding claim 13, Gauvin teaches the claim comprising whenever a network device has direct connections to a group of outside network devices external to said map, bundling said direct connections into an outside link bundle, by disclosing displaying a network topology view of selected elements within a hierarchical arrangement of icons [*column 16, lines 24-34*]. Elements in the network topology view may be grouped together [*column 18, line 60 to column 19, line 11; column 22, lines 31-65; figure 7*]. The elements may be expanded [*column 18, lines 5-19*] to show lower-level groups [*column 18, lines 50-59; figure 6*]. There is a parent-child relationship among the elements [*column 16, lines 35-56*].

Gauvin teaches displaying an interactive multiple link connector (MLC) icon, the MLC icon grouping all outside link bundles associated with said network device into a single icon, by disclosing that a user may select elements in the network topology view for expansion [*column 18, lines 5-19*]. A group expansion mechanism associated with each element may be selected [*column 24, lines 13-34*].

Gauvin teaches selecting said MLC icon on said map to obtain a multiple link connector (MLC) list that displays an interactive outside link widget for each of said outside link bundles, each outside link bundle comprising one or more direct connections and each interactive outside link widget associated with an interactive group identification widget for each group of outside network devices directly connected to said network device, by disclosing displaying a group view control mechanism in response to selecting a group expansion mechanism *[column 26, lines 29-41]*. The group view control mechanism provides different levels of group expansion for selection *[column 26, lines 42-48, column 27, lines 7-19; figure 10]*.

6-7. Regarding claim 14, Gauvin teaches the claim with respect to claim 13, further comprising selecting said interactive outside link widget for said associated outside link bundle to obtain a list $L(n)$ with all direct connections contained in said associated outside link bundle, by disclosing that the user may use the group view control mechanism to expand a selected element *[column 27, lines 20-44]*.

6-8. Regarding claim 15, Gauvin teaches the claim with respect to claim 13, further comprising selecting said interactive group identification widget on said multiple link connector list to display a sub-map of all network devices in said associated group, by disclosing that the user may use the group view control mechanism to expand a selected element *[column 27, lines 20-44]*.

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6-9. Regarding claim 23, Gauvin teaches the claim with respect to claim 13, wherein at least one of said groups of outside network devices is associated with only one outside node, by disclosing that the user may edit groups and subgroups [*column 22, lines 31-65*]. Thus, the system is fully capable of only having one outside node associated with an outside node.

Allowable Subject Matter

7. Claims 6, 8-12, and 22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action.

Claims 16 and 18-20 are allowed.

8. The following is an examiner's statement of reasons for allowance:

Examiner has carefully considered independent claim 6. Regarding independent claim 6, the closest prior art Gauvin et al (U.S. Patent No. 7,315,985 B1) discloses an element database that contains element definitions corresponding to various manageable elements [*column 13, lines 29-50*]. A resource manager performs processing and provides a network topology view [*column 11, lines 34-45*]. Elements have a parent-child relationship [*column 16, lines 35-56*]. A hierarchy of icons is displayed corresponding to the elements displayed in the network topology view [*column 16, lines 24-34*]. A user may select elements in the network topology view for expansion [*column 18, lines 5-19*]. A group expansion mechanism associated with each element may be selected [*column 24, lines 13-34*]. A group view control mechanism is

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displayed in response to selecting a group expansion mechanism [column 26, lines 29-41]. The group view control mechanism provides different levels of group expansion for selection [column 26, lines 42-48, column 27, lines 7-19; figure 10].

Gauvin does not expressly teach a list organizer that displays a multiple link connector (MLC) list on a screen of a workstation in response to a selection of said interactive connector icon, each row of said MLC list showing an association between one of said outside line bundles and a respective one of said plurality of groups of outside network devices, each outside link bundle comprising one or more direct connections.

Regarding independent claim 16, Gauvin does not expressly teach a pop-up window displaying said MLC list, wherein each row in said MLC list displays one of said outside link bundles and said group of outside network devices to which said outside link connects, said one of said outside link bundles comprising a plurality of direct connections between the network device and said group of outside network devices.

Response to Arguments

9. The Examiner acknowledges the Applicant's amendments to claims 6, 8-12, 22, and 23. Examiner has reconsidered independent claims 6 and 16 and determined that these claims are allowable over Gauvin. These claims are distinguished from independent claims 1 and 13 because claims 6 and 16 contain limitations that require each row in the MLC list to show an outside link bundle and a respective one of said

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plurality of groups of outside network devices. In view of the allowable subject matter, Applicant's arguments with respect to claims 6 and 16 are moot.

Regarding independent claim 1, the Applicant alleges that Gauvin et al (U.S. Patent No. 7,315,985 B1) does not explicitly teach, "bundling... said direct connections between said subject node and said outside nodes... where an outside node is a node not displayed on the map." Contrary to Applicant's arguments, Gauvin discloses that top-level elements represent a list of individual element icons [*column 16, line 35 to column 17, line 9*]. Links may be displayed, defining connections between devices [*column 17, lines 26-35*]. The user is able to expand and collapse groups within the network topology view [*column 6, lines 57-65; column 18, lines 5-19*]. As shown in [*figure 5*], an unexpanded parent element does not display all the nodes of the parent element. Because the child nodes are not displayed, those links for the child nodes will also not be displayed. Therefore, these child nodes may be considered outside nodes when the parent element is not expanded. These outside nodes are bundled together and represented by their respective parent elements.

Regarding independent claim 1, Applicant alleges that Gauvin does not expressly teach, "displaying, responsive to selecting said interactive connector icon, a pop-up window showing a multiple link connector (MLC) list wherein each item in said MLC list represents an outside link bundle and a corresponding outside node group, the outside link bundle comprising one or more direct connections." Examiner notes that the claim does not recite separate list bundles. The claim only recites outside link bundles. Additionally, the claim only recites that each item in the list represents an outside link

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bundle and a corresponding outside node group. Therefore, it is not necessary that the corresponding outside node group be displayed within the list. Contrary to Applicant's arguments, Gauvin teaches displaying a group view control mechanism in response to selecting a group expansion mechanism *[column 26, lines 29-41]*. The group view control mechanism allows the user to expand and/or contract the grouped elements to see different hierarchical levels of the elements in the group *[column 26, lines 26-29]*.

As discussed above, child nodes that are not displayed because their parent has not been expanded may be considered outside nodes. Thus, the group view control mechanism, when the hierarchy is unexpanded, would display a list of child nodes which may be considered outside link bundles. These child nodes themselves may have corresponding children that represent outside node groups. Expanding a hierarchical level would display connections for those nodes at that level. Thus, the child nodes of the top-level parent would comprise one or more direct connections *[column 22, lines 21-30]*.

Regarding independent claim 1, Applicant alleges that none of the elements in the group view control mechanism represents a device corresponding to the connection. Examiner notes that nowhere in claim 1 recites that the nodes represent devices. Contrary to Applicant's argument, Gauvin discloses that the hierarchical arrangement of icons may represent host devices such that expansion of the host devices displays a list of individual host elements representing specific host devices or groups of host devices that are operating within the storage area network *[column 14, lines 14-29; column 22,*

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lines 21-30]. Thus, the group view control mechanism may correspond to a hierarchy of devices. When unexpanded, these groups represent outside node groups.

Similar arguments have been presented for independent claim 13 and thus, Applicant's arguments are not persuasive for the same reasons.

Applicant states that dependent claims 3-5, 14, 15, 21, and 23 recite all the limitations of the independent claims, and thus, are allowable in view of the remarks set forth regarding independent claims 1 and 13. However, as discussed above, Gauvin is considered to teach claims 1 and 13, and consequently, claims 3-5, 14, 15, 21, and 23 are rejected.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALVIN H. TAN whose telephone number is (571)272-8595. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kieu Vu can be reached on 571-272-4057. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alvin H Tan/
Examiner, Art Unit 2173